ing centralized review fulfills the intentions of 45 CFR[2] while ensuring consistent protection of participants. Although very cumbersome to initiate,[3] cooperative group programs demonstrate that sharing the responsibility for protection of human participants among central and local review boards is feasible and effective.[4] Finally, a partnership between a centralized review board and local review boards could facilitate the participation of institutions which heretofore have not had substantial involvement in clinical research. We believe that our proposed cooperative arrangement could make research studies available to a larger and likely more diverse segment of the population in this country.

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Table. Metabolic Parameters in Women With Turner Syndrome and Premature Ovarian Failure*

Parameter	Mean (SD)		*P* Value†
	Turner Syndrome (n = 33)	Premature Ovarian Failure (n = 35)	
Age, y	34 (10)	33 (5)	.80
Body mass index‡	24 (3)	23 (3)	.50
Body fat, %	33 (7)	32 (5)	.30
Truncal fat, %	30 (9)	28 (6)	.30
Lipids, mg/dL			
Total cholesterol	208 (42)	186 (30)	.02
HDL-C	64 (12)	70 (18)	.13
LDL-C	133 (38)	109 (27)	.005
Non–HDL-C	144 (40)	116 (30)	.002
Triglycerides	105 (51)	76 (36)	.007
Fasting glucose, mg/dL	83 (7)	86 (7)	.10
Fasting insulin, μU/mL	5.8 (3.1)	5.5 (2.4)	.70
Fasting insulin sensitivity§	0.4 (0.04)	0.4 (0.04)	.90

Abbreviations: HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol.
SI conversion factors: To convert mg/dL values of total cholesterol, HCL-C, LDL-C, and non–HDL-C to mmol/L, multiply mg/dL values by 0.0259; to convert mg/dL values of triglycerides to mmol/L, multiply mg/dL values by 0.0113; to convert mg/dL values of glucose to mmol/L, multiply mg/dL values by 0.0555; to convert μU/mL values of insulin to pmol/L, multiply μU/mL values by 6.945.
*Information on biochemical assays is available at: http://cclnprod.cc.nih.gov/dlm/testguide.
†Significant differences were determined by analysis of variance followed by Fisher protected least significance difference test.
‡Calculated as weight in kilograms divided by the square of height in meters.
§Measured using QUICKI (Quantitative Insulin Sensitivity Check Index).

RESEARCH LETTER

Lipid Profiles in Women With 45,X vs 46,XX Primary Ovarian Failure

To the Editor: The increased prevalence of coronary heart disease (CHD) in women with monosomy X (Turner syndrome) has been attributed to their premature ovarian failure, which causes loss of estrogen effect and excess adiposity.[1,2] However, the longstanding view of estrogen as a cardioprotective agent responsible for the relative protection from CHD enjoyed by women compared with men has recently been challenged.[3] To investigate the possibility that haploinsufficiency for X-chromosome genes, rather than gonadal insufficiency, contributes to the increased CHD risk in monosomy X, we compared fasting lipid profile, glucose and insulin levels, and body composition in young, nonobese women with Turner syndrome and in 46,XX women with premature ovarian failure.

Methods. Women were recruited mainly through notices on the National Institute of Child Health Web site. The criteria for inclusion in our institutional review board–approved studies on premature ovarian failure and Turner syndrome have been described previously.[4,5] Participants were 33 women with Turner syndrome and 35 women with premature ovarian failure. Exclusion criteria included diabetes mellitus, age younger than 18 years or older than 50 years, body mass index (BMI) greater than 30 or less than 19 (calculated as weight in kilograms divided by the square of height in meters), use of antilipid medications, and ingestion of more than 3 drinks of alcohol per week. All women discontinued estrogen use at least 2 weeks prior to the study and were in good general health. All were euthyroid, based on initial clinical and laboratory evaluations. Most participants were sedentary; there were no athletes or exceptionally fit individuals. Lipid profiles and levels of glucose and insulin were measured after a 12-hour overnight fast.

Results. The groups were similar in age and BMI; however, levels of total cholesterol, low-density lipoprotein cholesterol (LDL-C) (direct), non–high-density lipoprotein cholesterol (HDL-C), and triglycerides were all significantly higher in women with Turner syndrome compared with women with 46,XX premature ovarian failure (TABLE). Only 2 of 35 women with premature ovarian failure had a fasting total cholesterol level greater than 240 mg/dL (6.2 mmol/L), compared with 12 of 33 women with Turner syndrome. The ratio of total cholesterol to HDL-C was 3.3 (95% confidence interval, 3.1-3.6) in participants with Turner syndrome and 2.8 (95% confidence interval, 2.6-3.0) in those with premature ovarian failure (P=.004). Total percent body fat and truncal fat, determined by dual X-ray absorptiometry,[5] and fasting insulin sensitivity, determined by the QUICKI (Quantitative Insulin Sensitivity Check Index) analysis,[6] were similar in both groups (Table).

Comment. We found that healthy, young, nonobese women with Turner syndrome exhibit an atherogenic lipid profile compared with 46,XX women of the same age and body composition with premature ovarian failure. Since advancing age is associated with decreasing levels of HDL-C and increasing levels of LDL-C, this unfavorable lipid profile may contribute to the excess mortality in women with Turner syndrome.[1] Interestingly, in contrast to the obesity-related "metabolic syndrome," insulin sensitivity measured by fasting levels of insulin and glucose appears to be normal in these young women with Turner syndrome. Because the 2 groups in this study are similar in gonadal status, adiposity, and lifestyle factors influencing lipid metabolism, the atherogenic lipid profile in Turner syndrome may be caused by haploinsufficiency for as-yet unknown X-chromosome gene(s). Given that a number of X-chromosome genes escape inactivation yet do not have a Y-chromosome homologue,[7] some of these genes may contribute to the the more favorable lipid profiles of healthy 46,XX women compared with men.

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CORRECTION

Incorrect Data in Abstract and Table and Incorrect Text and Date in Figure: In the Original Contribution entitled "Cost of Lost Productive Work Time Among US Workers With Depression" published in the June 18, 2003, issue of THE JOURNAL (2003;289:3135-3144), incorrect data appeared on pages 3135 and 3142. On page 3135, in the "Results" section of the abstract, the self-reported use of antidepressants should be <33% [not <30%]. In Table 5 on page 3142, the values in the "Received a prescription medication for depression or anxiety in the past 12 mo" row, from left to right, should be 32.4, 33.0, 43.1, 34.9, 36.6, 36.4, 10.9, and 24.7. In the Figure on page 3137, the study referred to in the title should be the Depressive Disorders Study [not the Depression Disorders Study], and the text and dates in the topmost box should read "Survey of American Productivity Audit Subsample (5/20/02-7/11/02)" [not "American Productivity Audit Survey (11/20/01-7/11/02)"].